80

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,054	07/10/2003	Jerzy Bala	P03,0293	2642

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SCHIFF HARDIN, LLP
PATENT DEPARTMENT
6600 SEARS TOWER
CHICAGO, IL 60606-6473

EXAMINER	
RIMELL, SAMUEL G	

ART UNIT	PAPER NUMBER
2165	

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,054	BALA, JERZY	
	Examiner	Art Unit	
	~~Yicun Wu~~ RIMMELL	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

III. DETAILED ACTION

1. Claims 1-18 are presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-7, 10-12 and 14-18 are rejected under 35 U.S.C. 102(e) as being anticipated over Wong et al. (U.S. Patent 6,711,577).

As to Claim 1, Wong et al. discloses a method for visualization of data knowledge on a computer (fig. 4), comprising the steps of:

performing data mining (i.e. mining. Fig. 2) of data to generate rules (i.e. rules. Fig. 2);

representing the rules as objects in a three-dimensional space (fig. 5), the rules being displayed (fig. 5) in at least one group (i.e. grouped together. Col. 9, lines 20-23) with a rule having a highest strength (i.e. confidence. Col. 6, lines 60-67) being represented in a prominent position (col. 7, lines 39-65) in the at least one group (col. 7, lines 39-65);

displaying the three-dimensional space (fig. 4 and col. 7, lines 23-25) on a graphical user interface and permitting using navigation and zooming in (i.e. zoom in/zoom-out. Col. 8, lines 40-46) the three-dimensional space using a computer input apparatus (i.e. pointing device. Col. 8, lines 40-46).

As to Claim 2, Wong et al. discloses a method wherein the step of representing

represents all rules generated during the data mining as objects in the three dimensional space (fig. 5).

As to Claim 3, Wong et al. discloses a method wherein the step of representing

represents less than all rules generated during the data mining (fig. 2).

As to Claim 4, Wong et al. discloses a method wherein

the rules are represented as spheres (fig. 11 and 4) in the three-dimensional space on the user interface (fig. 4), and the spheres of the at least one group are displayed in spiral arrangement (fig. 4).

As to Claim 5, Wong et al. discloses a method wherein the spheres have a size representing a relative number of examples covered by the corresponding rule (i.e. number of items and establish a number of association rules for these items. Col. 3, lines 21-25).

As to Claim 6, Wong et al. discloses a method further comprising the step:

displaying information on a rule upon selection of a three-dimensional object corresponding to the rule (col. 3, lines 5-19).

As to Claim 7, Wong et al. discloses a method wherein the displaying step displays an index of the corresponding rule (i.e. metadata for the rules. Col. 3, lines 1-9).

As to Claim 10, Wong et al. discloses a method wherein

the computer input apparatus is a computer keyboard and mouse-like apparatus (i.e. pointing device. Wong et al. Col. 8, lines 40-46).

As to Claim 11, Wong et al. discloses a method wherein the rule having a highest strength is displayed at a center of the at least one group (FIG. 4, ITEM 244).

As to Claim 12, Wong et al. discloses a method wherein the rules of the at least one group are displayed as a spiral arrangement of spheres (Wong et al. FIG. 4), the rules of lesser strength being displayed at outer portions of the spiral arrangement (Wong et al. FIG. 4).

As to Claim 14, Wong et al. discloses a method comprising upon selection of one of the objects corresponding to a rule, displaying raw data covered by the rule (i.e. zoom in/zoom-out. Wong et al. Col. 8, lines 40-46).

As to Claim 15, Wong et al. discloses a method wherein the displaying step displays the raw data as a projection on a graph (i.e. projecting. Wong et al. Col. 7, lines 39-43) and (i.e. zoom in/zoom-out. Wong et al. Col. 8, lines 40-46).

As to Claim 16, Wong et al. discloses a method comprising:

selectively displaying walls of the three-dimensional space (fig. 4); and

selectively displaying a floor of the three-dimensional space (fig. 4).

As to Claim 17, Wong et al. discloses a method wherein

the rules are generated by an inferencing engine (col. 3, lines 1-30).

As to Claim 18, Wong et al. discloses a software program operable on a computer to carry out a method for visualization of data knowledge on a computer, comprising the steps of

performing data mining (i.e. mining. Fig. 2) of data to generate rules (i.e. rules. Fig. 2);

representing the rules as objects in a three-dimensional space (fig. 4 and col. 7, lines 23-25); and

permitting using navigation and zooming in the three-dimensional space (i.e. zoom in/zoom-out. Col. 8, lines 40-46).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 8-9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al. (U.S. Patent 6,711,577) in view of Weiss (U.S. Patent 6,523,020).

As to Claim 8, Wong et al. discloses a method for cleansing noise from data, comprising the steps of generating objects for display representing rules obtained by data mining in a database (fig. 2);

grouping the objects (i.e. grouped together. Col. 9, lines 20-23);

positioning objects within a group according to rule strength (i.e. confidence. Col. 6, lines 60-67); and

filtering out rules of lesser strength from the display of objects (col. 6, lines 65-67), including the sub-steps of acquisition of a concept by a concept learner (fig. 2).

Wong et al. does not teach rule class and evaluation of learned class descriptions and detection of concept components;

optimization of class descriptions according to predetermined criteria of class description evaluation; and

formulation of a filter for modified concept descriptions and filtration of training data.

Weiss teaches a rule class (i.e. rules for each class. Col. 3, lines 20-25) and evaluation of learned class descriptions and detection of concept components (Col. 3, lines 20-27 and col. 6, lines 3-20);

optimization of class descriptions according to predetermined criteria of class description evaluation (Col. 3, lines 20-27 and col. 6, lines 3-20); and

formulation of a filter for modified concept descriptions and filtration (i.e. remove. Col. 4 lines 23-35) of training data (i.e. training. Col. 4 lines 23-35).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to

have modified Wong et al. with a rule class and evaluation of learned class descriptions and detection of concept components;

optimization of class descriptions according to predetermined criteria of class description evaluation; and

formulation of a filter for modified concept descriptions and filtration of training data.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Wong et al. by the teaching of Weiss because providing a rule class and evaluation of learned class descriptions and detection of concept components; optimization of class descriptions according to predetermined criteria of class description evaluation; and formulation of a filter for modified concept descriptions and filtration of training data allows high predictive performance as taught by Weiss (col. 1, lines 50-55).

As to Claim 9, Wong et al. as modified teaches a method comprising

applying a closed loop learning approach (i.e. training. Weiss Col. 4 lines 23-35);

running a learning program (i.e. learning. Weiss col. 4, lines 52-55) at least two times including a first run to acquire

model descriptions (fig. 2, item 21) and a second run to acquire detailed descriptions (fig. 2, item 25); and

using filtered training data on the second run (fig. 2, item 24).

As to Claim 13, Wong et al. as modified teaches a method comprising

the at least one group is a plurality of groups, each of the plurality of groups being represented as classes of rules (i.e. rules for each class. Weiss Col. 3, lines 20-25).

Conclusion

6. **THIS ACTION IS MADE FINAL**, Applicant's amendment necessitated the new ground(s) of rejection presented in this office action. Accordingly, *THIS ACTION IS MADE FINAL. See MPEP 706.07(a)*. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory- period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136 (a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply-expire later than SIX MONTHS from the mailing date of this final action.

Points of contact

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yicun Wu whose telephone number is 571-272-4087. The examiner can normally be reached on 8:00 am to 4:30 pm, Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4083. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Yicun Wu
Patent Examiner
Technology Center 2100

June 29, 2005

JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100